Full Range of Analyzers for Real-time Process Optimization and Control

PAC On-line Solutions

- Distillation
- Viscosity
- Sulfur/Nitrogen
- Flash Point
- Reid Vapour Pressure (RVP)
**PsPI Flash Point**

- Performance not affected by sulfur presence
- Handles samples with viscosities up to 220 cSt (1000 SSU) at 38°C (100°F)
- Analyzer software configuration can be modified without opening the explosion-proof enclosure
- Variety of signal outputs available

**PsPI Vapor Pressure**

- Fast Analysis with ultrasonic sample throughput
- Excellent Repeatability of ±0.05 psi
- Integral heating/cooling system
- No need for auxiliary air conditioning or coolant systems
- Monitor automatically returns sample to process stream

**Antek 6200, 6000 Series**

- Fast, precise measurement of liquid, LPG, and gas samples
- 1 minute, high speed version available for sulfur analysis in pipeline applications where response time is critical
- Total sulfur, total bound nitrogen, or both
- Sensitivity from 250 ppb to % levels
- Excellent reproducibility and linearity
- Fast cycle time: 2.5 to 5 minutes per stream, programmable
**ISL Physical Distillation - MicroDist**

- Full distillation curve in less than 10 minutes
- Auto-regeneration of the cell minimizes maintenance; no flask removal required
- Excellent Performance:
  - Repeatability +/- 1.5 ºC
  - Accuracy: equal or better than ASTM D86, D7345
- Multi Stream Capability

**Cambridge Viscosity**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>VISCopro 1600</td>
<td>Digital ViscoMeter as standalone monitor or a core component of a viscosity measurement system</td>
</tr>
<tr>
<td>VISCopro 2000</td>
<td>Viscometer Controller for single-channel control needs, offering 13 measurement ranges and memory control for up to 40 fluid settings</td>
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<tr>
<td>VISCopro 8000</td>
<td>Viscometer Multi-channel Controller, measures and controls multiple fluid applications in a single production line</td>
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- Viscosity Range:
  - VISCopro 1600: 0.2-20,000cP (0.2-2cP, 0.25-5cP, 0.5-10cP, 1-20cP, 2.5-50cP, 5-100cP, 10-200cP, 25-500cP, 50-1,000cP, 100-2,000cP, 250-5,000cP, 500-10,000cP, 1,000-20,000cP)

- Analysis Performance:
  - Repeatability 0.8%
  - Accuracy ± 1.0% of full scale (correlates to ASTM D445)

**PSPI Viscosity**

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<td>NEC Viscometer (44860)</td>
<td>Continuous measurement of the viscosity of new tonal fluids from 2 to 4000 Centipoise</td>
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<tr>
<td>Zone 1 Viscometer (44865)</td>
<td>Bath Temperature 38ºC to 135ºC (100ºF to 275ºF)</td>
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PAC IMPROVES PRODUCTION THROUGH REAL-TIME PROCESS OPTIMIZATION AND CONTROL

PAC has achieved global recognition over the years with its advanced laboratory analysis equipment and technologies, which provide reliable and accurate results with high levels of automation. Today, PAC is bringing these proven methodologies to the area of process analytics. Even though lab and process are essentially two different worlds, these technologies are transferable within the plant.

Primary process applications include nitrogen for catalyst protection and online sulfur. Overall customer benefits when using process instrumentation include:

• Increased speed and accuracy due to the real-time nature of the analysis rather than sampling and lab testing
• Decreased cost of ownership versus lab
• Increased productivity due to less interruption of production, sampling, or process anomalies
• Improved distillation analysis for blending operations

Process analytics allow the customer greater control over the process since there is less time between sampling; typical lab analysis is only run up to 4 times a day, while, for example, analysis within the process could be completed every 30 minutes. Process optimization and production control are significantly improved.

FULL RANGE OF ONLINE SOLUTIONS

PAC offers a full range of on-line instruments for distillation, sulfur/nitrogen, viscosity, flash point, and Reid vapour pressure (RVP) analyses by recognized PAC brands Antek, ISL, PSPI, and Cambridge Viscosity. These brands have long histories of providing innovative, highly dependable, and exceptionally accurate instrumentation.

PAC’s on-line analytical instrumentation provides highly accurate results with little operator interaction due to their high level of automation. This results in significant improvements with process optimization and production control.